User Centered Research and the Access Grid

Requirements for Collaboration

Overview

1. my interest in the AG

2. barriers to collaboration

3. a few observations

4. plans for the future

Communication, not just Information

"Remember, the old Bell System's most successful post-War advertising campaign wasn't 'Reach out and Inform someone' or 'Reach Out and Exchange Data With Someone at 1.5 megabits per second;' it was 'Reach Out and Touch Someone.'"

Michael Schrage, columnist and research associate at the MIT Media Lab

Motorola Labs and the AG

- About me…

- The User Centered Research group

- The "Collaborative Spaces" project

Motorola's AG Node

- **Informal working space**

- **Comfortable for a small group of 6-8 people**

- **Intended to encourage relaxed, "hang-out" atmosphere**

A 'Collaborative' Space is...

A **physical** location, supporting **collaboration** by:

- **connecting** people in different locations

- communicating **awareness** of others' activities

- conveying a sense of **presence** or "being there"

- building relationships through **persistent** connection

Requirements for Collaboration

- Support for **Nonverbal Communication**

    – Communication of a message whose meaning is not explicitly contained in spoken words

- Support for **Workspace Awareness**

    – Knowledge about people, objects, and activities in a shared space, enabling conversation about the work, coordination of actions and plans, and anticipation of others' needs

Nonverbal Communication: the Basics (1)

- Human communication uses three channels:

  - *linguistic*: the explicit meaning of spoken words

  - *paralinguistic*: aspects of speech that modify the meaning of spoken words

  - *nonlinguistic*: non-spoken communication; for example gesture, eye gaze, posture, facial expression

- Example: "You went to the concert with him"

Nonverbal Communication: the Basics (2)

- Nonverbal cues are learned, not innate; they vary across cultures

- We communicate this way unconsciously

- Eye gaze and head turning are the most important cues for signaling the end of a speaking turn

Workspace Awareness

- ## Perspective-taking:
  - Knowledge of the workspace from the perspective of others is important

- ## Grounding:
  - Creation of a shared understanding about a specific item, idea or emotion

WHO
- Presence: is anybody there
- Identity: who is that
- Authorship: who's doing that

WHAT
- Action: what are they doing
- Intention: what's the end goal
- Artifact: what object are they working on

WHERE
- Location: where are they working
- Gaze: where are they looking
- View: where can they see
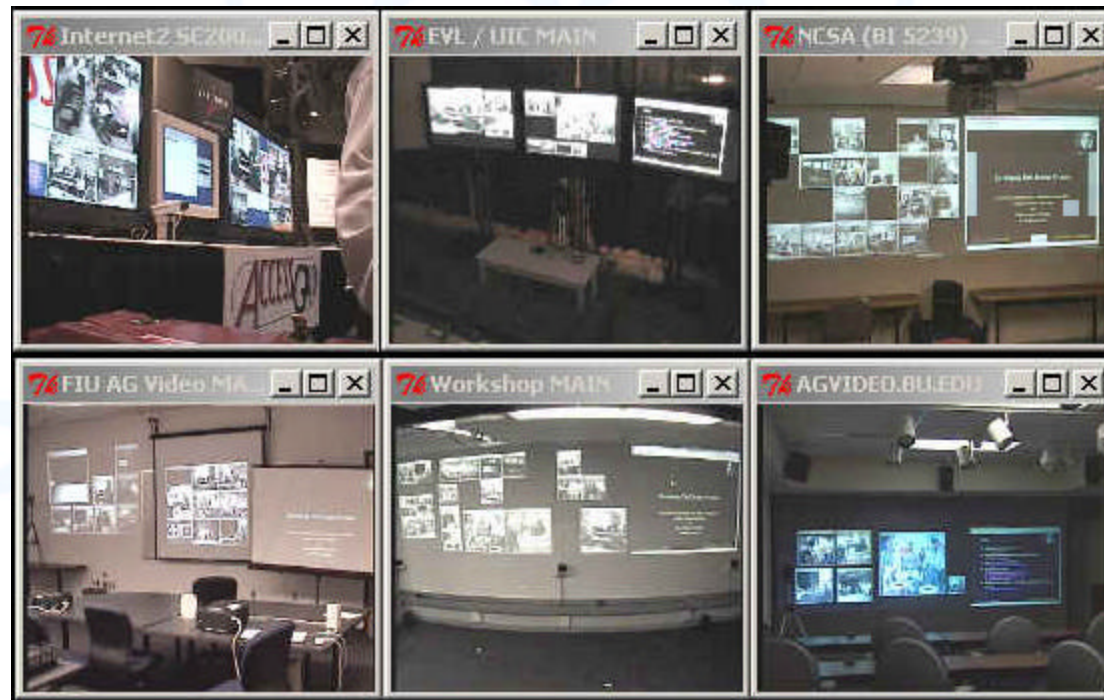- Reach: where can they reach

Access Grid Observations (1)

- # Eye contact asymmetry
  - Looking at the display instead of into the camera when talking to a specific remote participant

- # Grounding
  - Video quality and image display size can impede the grounding process
  - Node operators, who may not be participating in the conversation, control the display

Access Grid Observations (2)

- ## Perspective-taking

  - It can be difficult to tell where a video stream originates

  - Identities of remote participants may be unclear

  - Potential for lurking: "If they can't see you, you're not there"

Planned Research (1)

- Continued real-world data collection
  - On-site observations
  - AG observations
  - Usage survey
  - Automatic data logging

- Backchannel (MUD) usage and importance
  - A way to understand 'behind-the-scenes' coordination required for an AG event
  - Do relationships form without the MUD?

Planned Research (2)

- Experimental studies: the 'Focus' issue
  - in an interactive session it can be hard to follow the conversation
  - experimental studies are being designed to identify factors that impact Focus

Conclusion

- Questions, comments, ideas? Let's talk!

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